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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/673,879 | 09/30/2003 | Nobuyuki Fujitsuna | 2003-1398 | 2349 |

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EXAMINER

YEE, DEBORAH

ART UNIT PAPER NUMBER

1742

DATE MAILED: 04/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/673,879

Applicant(s)

NOBUYUKI FUJITSUNA ET AL

Examiner

Deborah Yee

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 to 18 is/are pending in the application.
- 4a) Of the above claim(s) 12, 14 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 to 11, 13, and 15 to 17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9-30-03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

1. Claims 12, 14 and 18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 1-14-00 in parent case 09/157,392.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 7, 16 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 1 is indefinite because it is unclear if "oxide film" is actively recited or a future property. Note that preamble of claim recites "steel capable of forming an oxide film on its surface during use.." yet later on recite "characterized in that ultra-fine oxide particles ...are formed... in and/or around the interface between the steel base and the oxide film formed". To actively recite oxide film, it is recommended to use language such as "Ferritic heat-resistant steel having an oxide film on its surface and having good steam oxidation-resistance,"

Same indefinite rejection applies to claims 16 and 17.

5. There is no antecedent basis for the limitation "lath structure is made fine and the martensite phase is reinforced" recited by claim 7.

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Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by the English abstract of Japanese patent 4-6244, 363186853, 409202919, 404263048, or 401272746.

8. The English abstract of each Japanese patent discloses a ferritic steel containing ultra-fine oxide particles having a diameter of not larger than 1 micron. Even though oxide film as recited by the claim is not taught by prior art, such would appear to be a future property and therefore not a patentable consideration. Even if oxide film was actively recited, such film would be expected because the prior art dispersion of fine oxides would make up the oxide film.

9. Claims 2, 3, and 15 to 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over English abstract of Japanese patent 4-6244, 363186853, 409202919, or 404263048.

10. The English abstract of each Japanese patent discloses a ferritic steel alloy comprising Cr together with Ti and/or Y and at least one element of C, Si, Mn, Ni, W, Mo, V, Nb, N, B or O in wt% ranges which overlap or closely approximate those recited by the claim. Note that such overlap or approximation establishes a prima facie case of obviousness because it would be obvious to one of ordinary skill in the art to select the claimed alloy ranges from the broader disclosure of the prior art because the

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prior art has similar utility and heat and oxidation resistant properties. See MPEP 2144.05.

11. Moreover, each Japanese patent discloses ultra-fine oxide particles having a diameter of not larger than 1 micron which overlaps with not larger than 0.5 micron recited by claim 15.

12. Even though an oxide film as recited by the claims is not taught by prior art, such would appear to be a future property and therefore not a patentable consideration. Even if oxide film was actively recited, such film would be expected because the prior art dispersion of fine oxides would make up the oxide film.

13. Also JP'244 more specifically discloses a steel containing 13-18%Cr and 0.5 to 1.5%Ti. Although Ti content is slightly higher than the claimed Ti range of 0.01 to 0.3%, such would not be a patentable distinction. Note that since applicant has not demonstrated criticality (e.g. by comparative test data) for the claimed Ti range, then a composition with 0.3% Ti vs. a composition with 0.5% would depict a mere difference in the proportion of element without any attendant unexpected results which would not patentably distinguish claims over prior art.

14. Claims 1 to 3, and 15 to 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otoguro et al (US Patent 4,405, 369).

15. Claims 1 to 4 and 15 to 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi et al (US Patent 5,591,391).

16. Claim 1 of columns 15-16 in Otoguro and claim 13 of column 24 in Igarashi discloses a ferritic steel alloy with constituents whose wt% ranges overlap those recited by the claims; such overlap renders applicant's composition prima facie obvious because

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it would be obvious to one of ordinary skill in the art to select the claimed alloy ranges from the broader disclosure of the prior art because the prior art has similar utility and heat resistant properties, see MPEP 2144.05.

17. More specifically, note Igarashi specific examples meet the claimed composition. See Table 1, columns 11 and 12, examples 5 and 8; and Table 1, columns 13 and 14, examples 16 to 18 and 24. Also note on lines 27 to 41, column 6 wherein a Cr oxide layer is formed on steel surface.

18. Even though prior art does not teach ultra-fine oxide particles having a diameter of not larger than 1 micron and the oxide film as recited by the claims, such oxide particle and film would be expected since the compositional limitations are closely met, and in absence of proof to the contrary. Moreover, oxide film appears to be a future property.

19. Claims 9 to 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aono et al (US Patent 5,779,822).

20. Aono teaches a ferritic/austenitic stainless steel containing 0.5 to 2% Pd which overlaps with applicant's Pd range of 0.3 to 5%. See claim 6, column 16. also note specific examples 2,4,6,8 and 11 in table 1 of columns 9-10 which closely meet the claimed composition except contain higher amounts of Cr. Aono discloses 14 to 20% which is slightly higher than applicant's Cr range of 8 to 13%. Since applicant has not demonstrated criticality of the Cr range, then it would seem that a composition with 13% Cr vs. a composition with slightly more Cr (say 14%) would depict a mere difference in the proportion of element without any attendant unexpected results. Hence claimed alloy would not patentably distinguish over the claims.

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21. Claims 1 to 11 and 13 to 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Angeliu (US Patent 5,906,791).

22. Angeliu teaches a steel alloy, on lines 25 to 45 in column 2, containing 8-13%Cr, 0.01 to 2%Rh and/or Ir, 0.01 to 0.3%Y and 0.5 max. Pt and/or Pd which overlap with one or more of the recited claims. Note that such overlap establishes a prima facie case of obviousness because obvious because it would be obvious to one of ordinary skill in the art to select the claimed alloy ranges from the broader disclosure of the prior art because the prior art has similar utility and heat resistant properties, see MPEP 2144.05.

23. Even though prior art does not teach ultra-fine oxide particles having a diameter of not larger than 1 micron and the oxide film as recited by the claims 1 to 3 and 15 to 17, such would not be a patentable difference since such oxide property would be expected since the compositional limitations are closely met, and in absence of proof to the contrary. Moreover, oxide film appears to be a future property.

24. Claims 5 to 7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnabe (US Patent 4,384,891), Japanese patent 404354855 or Paton et al (US Patent 4,761,187).

25. Barnabe in claims 1 to 3 of column 6, the English abstract of JP'855 and Paton in claims 1 to 8 of column 6, each disclose a steel alloy containing Cr and Rh, Pd and/or Pt in wt% ranges which overlap those recited by the claims. Note that such overlap establishes a prima facie case of obviousness because it would be obvious to one of ordinary skill in the art to select the claimed alloy ranges from the broader disclosure of the prior art because the prior art has similar utility and heat resistant properties, see MPEP 2144.05.

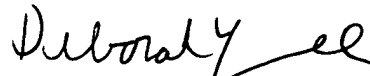
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253.

The examiner can normally be reached on Monday-Friday from 6:00 to 2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Deborah Yee
Primary Examiner
Art Unit 1742

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